

REMARKS

Claims 1 and 3-4 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lee et al. (US 4,496,249) in view of Lowell (US 5,360,743). Applicants traverse the rejection and assert that the combination of Lee et al. and Lowell fails to teach, suggest, or provide motivation of applicants' invention as claimed and that a *prima facie* case of obviousness has not been established. Absent applicants' own disclosure, there is nothing in the cited references that would teach or suggest applicants' invention as claimed.

Applicant has amended their claims to clarify that the ramping of the temperature according to the fixed heat input profile of heat being input into the chamber. The temperature of the solids themselves may deviate from the temperature of the chamber. The temperature of the chamber is due to ramping according to the fixed heat input profile, but the temperature of the solids themselves may deviate from the fixed heat input profile due to the desorption of the adsorbate.

The Official Office Action states that Lee et al. is silent as to the use of the claimed blank run, but Lowell et al. teach calibrating a sample cell in a method that measures the surface area of a catalyst. The official action states that in Lowell et al. it is taught that an inert gas may be used to calibrate the sample cell, and concludes that one of ordinary skill in the art would modify Lee et al. in view of Lowell and use an inert gas such as helium to calibrate the sample cells thereby obviating applicants' claimed invention.

In the background, Lowell et al. does state the art has taught using a non-adsorbable gas such as helium to calculate the volume of a sample cell used in performing adsorption and desorption gas analyses on materials. See Col 1 lines 37-44:

"All of these adsorption and desorption measurement systems have certain essential features. These include a non-adsorbable gas (e.g. helium) for calibrating the volume of the cell containing the

sample, and an adsorbate gas for performing the adsorption analysis. The non-adsorbable gas is critical in these systems for calibrating the volume of the sample cell with the sample material present."

Lowell's invention is stated to be superior to that of the art since Lowell uses the adsorbate instead of a non-adsorbable gas to measure the void volume, the adsorption of the sample cell walls, and correcting for non-ideal gas behavior in a sample cell.

Combining Lee et al. and Lowell would result in using either the adsorbate or a non-adsorbable gas to calculate the overall volume of the sample cell, calculate the adsorption of sample cell walls, and to correct for non-ideal gas behavior. Such a teaching does not render applicants' invention obvious, especially since applicants do not claim using the adsorbate or a non-adsorbable gas to calculate the overall volume of the sample cell, calculate the adsorption of sample cell walls, or to correct for non-ideal gas behavior. A teaching of a calibration step to calculate the overall volume of the sample cell, calculate the adsorption of sample cell walls, and to correct for non-ideal gas behavior does not obviate claims that do not contain such a step.

Applicants utilize the blank run of the solid using no adsorbate to determine a temperature ramp rate with a fixed heat input profile. To clarify this step, Claim 1 step (b) has been amended to clearly show that the blank run is not a calibration of the sample cell to calculate the overall volume of the sample cell, calculate the adsorption of sample cell walls, and to correct for non-ideal gas behavior, see paragraph [0040] and the first two paragraphs of example 4.

Claims 1-2 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lee et al. (US 4,496,249) and Lowell (US 5,360,743) together, and further in view of Wilson (US6,063,633). Applicants traverse the rejection and assert that the combination of Lee et al., Lowell, and Wilson fails to teach, suggest, or provide motivation of applicants' invention as claimed and that a *prima facie* case of obviousness has not been established. Absent applicants' own disclosure,

there is nothing in the cited references that would teach or suggest applicants' invention as claimed.

The combination of Lee et al. and Lowell is discussed above. Wilson does not change the combined teachings of Lee et al. and Lowell that would result in using either the adsorbate or a non-absorbable gas to calculate the overall volume of the sample cell, calculate the adsorption of sample cell walls, and to correct for non-ideal gas behavior as a sample cell calibration. Since applicants' claims do not require using either the adsorbate or a non-absorbable gas to calculate the overall volume of the sample cell, calculate the adsorption of sample cell walls, and to correct for non-ideal gas behavior, even combining Lee et al. and Lowell with any plurality-related teachings of Wilson would similarly fail to obviate applicants' claimed invention.

Accordingly, in view of the above amendments and remarks, this application is now believed to be in a condition for an allowance of all remaining claims and such action is respectfully requested.

Respectfully submitted,



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